

*Gary M. Vilke, M.D., FACEP, FAAEM
11582 Normanton Way
San Diego, California 92131
(619) 666-8643*

January 5, 2020

Patricia G. Williams
Wiggins, Williams & Wiggins
1803 Rio Grande NW (87104)
P. O. Box 1308
Albuquerque, NM 87103-1308

*RE : Dennis Murphy et al. v. The City of Farmington, et al.
Claim No. : CIV 19-639 RB/JFR*

Introduction

I am a board-certified emergency department physician with substantial experience in prehospital medical care and treatment of agitation. I am also an independent researcher on the physiologic effects of restraint and body position. My specific qualifications will be outlined in more detail at the end of this report.

I have been retained as an expert to review relevant materials and provide expert opinion on this matter on whether the actions of the Farmington police officers caused or contributed to the cardiac arrest and death of Mr. Daniel Turner when the officers encountered him on June 27, 2018. After careful review, it is my opinion to a reasonable degree of medical certainty that Mr. Turner's cardiac arrest was not caused by the actions of the officers but rather was caused by a sudden cardiac arrest due to the toxic effects of methamphetamine, as opined by the medical examiner. The continued resistance against restraint by Mr. Turner and a significantly enlarged heart contributed to the cardiac arrest. This opinion and related opinions are set forth in the expert report.

EXHIBIT A

EXHIBIT 3

- b. Babadi Supplement
 - c. Fincher Supplement
 - d. Gilbert Supplement
 - e. Nyce Supplement
 - f. Richardson Supplement
- 11. Body Worn Camera Video - Griggs
 - 12. Body Worn Camera Video – Moore
 - 13. Body Worn Camera Video – Wood
 - 14. Body Worn Camera Video – Prince
 - 15. In-Car Video – Griggs
 - 16. In-Car Video - Prince
 - 17. Report of Plaintiff's Expert Roger Clark
 - 18. Paradise Valley Hospital Medical Records

Overview of Opinions

(all opinions within this report are to a reasonable degree of medical or scientific probability)

An overview of my opinions is as follows with more description of each below:

- 1. The actions of the officers to control and restrain Mr. Turner did not cause or contribute to his cardiac arrest.*
- 2. I disagree with plaintiff's use of force expert Roger Clark when he opines that the weight of the officers "could significantly contribute to a positional asphyxia condition."*
- 3. Mr. Turner was exhibiting clinical signs of methamphetamine intoxication and untreated or undertreated schizophrenia during his encounter with the officers, which is consistent with the results of his medical history and toxicology screen.*
- 4. I agree with the medical examiner that the cause of death of Mr. Turner was a sudden cardiac arrest due to an enlarged heart along with the effects of methamphetamine and physiologic stress.*
- 5. Placing Mr. Turner in a "recovery position" would not have prevented his sudden cardiac arrest and death.*

Detailed discussion and basis of opinions

1. The actions of the officers to control and restrain Mr. Turner did not cause or contribute to his cardiac arrest and death.

During the period that Mr. Turner was being handcuffed and afterwards while awaiting the arrival of EMS, he was restrained in a prone position with a certain amount of weight placed on him initially to gain control over him and then to maintain in position and keep him from getting up. During this time, based on the reports by officers and my review of the body worn camera videos, Mr. Turner was continuing to struggle and resist during the cuffing process. After he was handcuffed, struggling and resisting and breathing without any reported evidence of respiratory or ventilatory difficulty during this time. Mr. Turner was not reported or heard on the videos to complain of shortness of breath or difficulty breathing while being restrained.

The weight force used on Mr. Turner was described as follows: Officer Prince applied downward pressure to Mr. Turner's right bicep with his knee and attempted to prevent him from striking his head with his hand intermittently placed on top of Mr. Turner's head or neck. He reported that he only applied enough pressure to stabilize Mr. Turner and allowed him to slightly raise his body off the ground. Sergeant Griggs applied downward pressure on Mr. Turner's left shoulder with one hand, and he held a flashlight in the other hand to monitor Mr. Turner's medical condition. Sergeant Griggs reported using "minimal force" to prevent Mr. Turner from moving around. Officer Wood reported that he was kneeling on Mr. Turner's right hamstring, and he said that he was using "almost all of his weight," and that Mr. Turner was still lifting him off the ground. Officer Moore was kneeling and applied approximately half of his body weight on Mr. Turner's left hamstring.

The majority of the weight force was not even on Mr. Turner in such a position that would

have created the potential to limit ventilation. The weight on the legs by Officer Wood and Officer Moore would have no impact on ventilation. Holding the arm down, like Officer Prince reported and could be seen in the video, would not impact ventilations. The modest weight placed on the shoulder by Sergeant Griggs and intermittently to the back of the neck or head by Officer Prince would not significantly limit ventilations enough to cause asphyxiation. Research using up to 220 lbs. of weight on a subject's back has not shown to cause physiologic changes that would imply asphyxiation is even possible with that amount of weight.

If the weight force by the officers impacted Mr. Turner's ability to ventilate to the point of causing a cardiac arrest and sudden death by asphyxiation, the ventilations would have had to be restricted long enough to where blood oxygen levels would drop because there was not enough oxygen getting into Mr. Turner's lungs. When this occurs, the low blood oxygen levels will cause the heart to become irritable and eventually slow and then stop causing the subject to go into cardiac arrest. This takes time and essentially complete blockage of air movement in and out of the lungs. The total time that Mr. Turner was struggling from when the officers started to handcuff him until there was a change in Mr. Turner's status when he appears to lose consciousness and not breathing was less than three and a half minutes. During most of this time Mr. Turner moving and struggling. Thus, even if there was enough weight being placed to truly restrict ventilations, the timeline was not long enough to cause the cascade of physiologic changes from asphyxia to result in a cardiac arrest. The weight force used in this case with Mr. Turner was not enough to significantly restrict ventilations.

In summary, the weight holding Mr. Turner in position for the short time that it took to get him restrained as well as the weight being used after to maintain his location was not enough to limit ventilations thus, there is no evidence that position, restraint or body weight caused or contributed to Mr. Turner's cardiac arrest and death.

2. I disagree with plaintiff's use of force expert Roger Clark when he opines that the weight of the officers "could significantly contribute to a positional asphyxia condition."

Plaintiff's police practices expert, Roger Clark, writes in his report, "The officers' application of pressure and body weight (approximately 600 pounds total) on Mr. Turner's legs, back, neck, and head violated their training and a properly trained officer would have known that this application of pressure and body weight could significantly contribute to a positional asphyxia condition." Mr. Clark is not a physician, nor has he published any clinical research in the field of restraint physiology or positional asphyxia. This is likely why his report erroneously implies that there was a total of 600 lbs. of pressure and body weight that was applied by officers onto Mr. Turner that could "contribute to a positional asphyxia condition." As noted in my opinion #1, the weight being applied to each of the legs and the arm would not impact ventilations in Mr. Turner. Thus, Mr. Clark's summation of the weights of the officers to get to 600 lbs. and assume that all could possibly be contributing to positional asphyxia is in error.

3. Mr. Turner was exhibiting clinical signs of methamphetamine intoxication and untreated or undertreated schizophrenia during his encounter with the officers, which is consistent with the results of his medical history and toxicology screen.

Mr. Turner had methamphetamine and amphetamine reported in his blood toxicology evaluation on autopsy. Methamphetamine is a sympathomimetic illicit drug that acts as a stimulant. Methamphetamine has a number of physiologic effects, including increasing heart rate and blood pressure. It can cause delusions, paranoia, erratic or violent behavior and increased agitation, as well as sweatiness, elevated temperatures and jitteriness. Mr. Turner was exhibiting many of these signs of methamphetamine intoxication including lack of following commands from the officers, erratic behavior and impulsiveness as well as banging his head on the ground. He was also noted to be sweating profusely (see image below).

Schizophrenia is a psychiatric condition then when untreated or undertreated can result in auditory hallucinations, paranoia, odd or erratic behavior and sometimes violent outbursts. Mr. Turner had a diagnosis of schizophrenia noted from his previous medical records at Paradise Valley Hospital where he had been previously treated for an “acute exacerbation of chronic paranoid schizophrenia” when he presented to the emergency department with homicidal ideation in January 2016. Mr. Turner was also presenting with symptoms consistent with untreated or undertreated schizophrenia. Given his ramping up of agitation over several days and no sleeping, it is highly unlikely that Mr. Turner was not taking medications to treat schizophrenia during this time, which will worsen the symptoms of schizophrenia.

Given that many of the clinical features of methamphetamine intoxication and undertreated schizophrenia overlap, it is difficult to determine whether one or the other condition contributed more to Mr. Turner’s clinical presentation when officers encountered him on June 27, 2018. However, as is often the case with mental illness, there is often an illicit drug overlay of the clinical presentation and overall, it is my opinion that Mr. Turner’s behavior was consistent with an individual who is was under the influence of methamphetamine intoxication as well as suffering from untreated or undertreated schizophrenia.

4. I agree with the medical examiner that the cause of death of Mr. Turner was a sudden cardiac arrest due to an enlarged heart along with the effects of methamphetamine and physiologic stress.

Mr. Turner had methamphetamine and amphetamine noted on his blood toxicology screen from the autopsy. As noted earlier, methamphetamine has a number of physiologic effects, including increasing heart rate and blood pressure, causing agitation and erratic behavior. The drug itself is irritating to the heart tissue and can cause changes in cardiac rhythm and is not an uncommon cause of cardiac arrest. The medical examiner opined that the cause of death was from

the toxic effects of methamphetamine. I agree with this.

Mr. Turner also had a heart that was significantly enlarged, weighing 535 grams. The normal sized heart for a male is typically 300-350g and some sources note possibly up to 400g depending on body size. On autopsy, the medical examiner specifically reported that Mr. Turner's heart had concentric left ventricular hypertrophy, which is an abnormal thickening of the muscle of the heart. One of the more common causes of an enlarged heart in a younger male, like Mr. Turner, is chronic methamphetamine abuse.

Mr. Turner's agitated state and banging his head will cause trauma, pain and ongoing exertion that continue to physiologically stress this already abnormally enlarged heart. This significant physical enlargement of the heart in and of itself can place an individual at increased risk for sudden cardiac arrest and death from an irregular heartbeat but the continued exertion Mr. Turner was exhibiting, increased this risk for sudden cardiac arrest.

This severe exertional activity from his repeated physical activity and trauma creates lactic acid by the muscles working hard and this increases the work of the heart. Lactic acid is the chemical that builds up when a person exercises and feels the muscles "burn." That burn is from the lactic acid and when in the blood stream, will also lower the pH and make the blood more acidic. The acidic blood is also a cardiac irritant, increasing the risk for sudden cardiac arrest.

The medical examiner noted in his report, "Methamphetamine use is a risk factor for experiencing life-threatening, abnormal heart rhythms, particularly in the setting of other cardiac risk factors such as an enlarged heart. The physical restraint applied by police officers, and the decedent's prone position (face down; limits one's ability to adequately breath) while being restrained would have contributed to the decedent's physiologic stress and are listed as contributory conditions." I agree with the assessment that methamphetamine use is a risk factor for experiencing life-threatening, abnormal heart rhythms, particularly in the setting of other cardiac risk factors such

as an enlarged heart. Though technically correct that the prone position while restrained can result in minimally decreased lung volumes when measured on very sensitive pulmonary medical devices compared to a sitting position, many well designed, peer reviewed published studies have demonstrated that the prone position is physiologically neutral compared to supine or sitting positions and would not impact oxygenation in an individual restrained in a prone position.

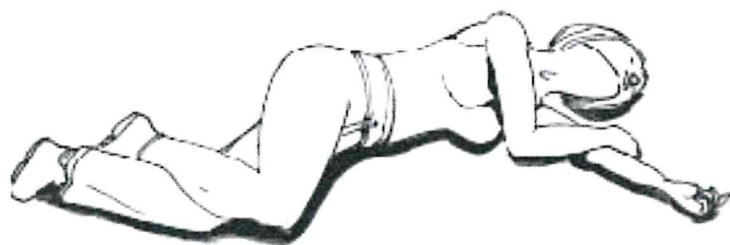
The medical examiner is also correct that Mr. Turner being restrained in a prone position by officers may result in physiologic stress as Mr. Turner struggles and resists, but this physiologic stress is much less than the agitation and banging of his head on the concrete. Additionally, the use of restraints and holding Mr. Turner in position will help to reduce the activity of his large muscle groups. Repetitive activity of large muscle groups increases lactic acid production and lowers the blood pH level, putting the heart at increased risk of cardiac arrest. Holding and restraining Mr. Turner reduces this activity, reducing the lactic acid production and thus the risk of cardiac arrest.

Thus, in summary, Mr. Turner was exerting himself, inducing trauma and using methamphetamine leading to increased metabolic demands, increased blood acidosis and the direct toxic effects of methamphetamine, all of which are stressing the abnormally enlarged heart, until the heart finally failed and went into cardiac arrest. The methamphetamine use along with the exertion in combination with his enlarged heart is the probable cause of Mr. Turner's sudden cardiac arrest.

5. Placing Mr. Turner in a "recovery position" would not have prevented his sudden cardiac arrest and death.

In his expert report, Roger Clark references that the police did not utilize the "recovery position. Mr. Clark opines, that "the officers' actions of rolling Mr. Turner onto his stomach, applying body weight and pressure on his back, neck, head and legs, and then **failing to discuss or attempt to move Mr. Turner onto his side or up into a recovery position or check on the**

position of his face on the ground, his breathing, and his airway during the detention and especially after Mr. Turner appeared to stop moving, showed a reckless indifference to Mr. Turner's safety and is reflective of extremely improper and inadequate training." (emphasis added) The term "recovery position" dates back to the 1800s where a doctor in England presented a paper suggesting that an unconscious stroke patient should be placed on his side to prevent obstruction of the airway. Over the years, first aid journals used this term to refer to placing somebody on their side if breathing is noisy or gurgling. The position would be to place the patient into a three quarters prone position, with the patient laying on the side with the arm nearest the floor brought out in front of the patient and the bent to the side.



The "recovery position" used in law-enforcement education back in the 1980s, recommended that a subject who is handcuffed and hobbled should be turned on their side from the prone position to assist them in "recovering." Clearly this is not the same "recovery position" as in the first aid journals as these individuals are handcuffed with hands behind their back and feet pulled up at the knees. This recommendation to use a recovery position was in response to cases in which subjects died after being placed in the hogtie restraint, and these deaths were attributed to positional asphyxia. Since the 1980s, many research papers and publications have debunked the positional asphyxia concept, proving that ventilatory function while in prone, supine, or seated position is essentially the same with no clinically significant differences in the ability to breathe. However, the term "recovery position" still exists and is referred to occasionally, often by

use of force experts venturing into medical opinions regarding respiratory physiology. But the reality is that there is no need for a recovery position, nor does the recovery position have any redeeming aspects that allows an individual to breathe or ventilate better or “recover.” Individuals breathe just fine in a prone, supine or lateral position. Thus, whether or not the Farmington Police Officers had positioned Mr. Turner on his side in a “recovery position,” the outcome of his cardiac arrest and death would have been the same.

Background

My background is that I am a full-time faculty member in the department of emergency medicine at the University of California, San Diego Medical Center. I am residency trained and board certified in Emergency Medicine. I work full time as a practicing clinician in the Emergency Department of a busy urban hospital and serve as the clinical operations chief for our two emergency departments with a combined annual census of approximately 75,000 visits. I currently serve as the Medical Director for Risk Management for UC San Diego Health. I also serve as the UCSD Medical Center’s Medical Risk Management Committee Chair and Allocation Committee Co-Chair, as well as previously having served as the Chair of the Patient Care and Peer Review Committee, each of which are charged with the task of reviewing medical records and making determinations of standard of care. I am also the former Chief of Staff for UC San Health.

I have triaged, evaluated and managed thousands of patients with acute agitation throughout my career in both the emergency department and jail clinic settings. I am familiar with the evaluation and treatment for agitation. I have published multiple peer-reviewed papers and book chapters on the topics of evaluation and treatment of acute agitation and have lectured internationally on the subject.